



# Environment Testing TestAmerica



## ANALYTICAL REPORT

Eurofins TestAmerica, Houston  
6310 Rothway Street  
Houston, TX 77040  
Tel: (713)690-4444

Laboratory Job ID: 600-186068-1  
Client Project/Site: ITC WW20190525-002-Day23

For:  
Cardno, Inc  
970 Wedgewood Drive  
Crystal Lake, Illinois 60014

Attn: Ms. Cheryl Hennessy

*Steve A Stepanski*

Authorized for release by:  
6/11/2019 3:36:10 PM  
Steve Stepanski, Project Mgmt. Assistant  
(713)690-4444  
[steve.stepanski@testamericainc.com](mailto:steve.stepanski@testamericainc.com)  
Designee for  
Dean Joiner, Project Manager II  
(713)690-4444  
[dean.joiner@testamericainc.com](mailto:dean.joiner@testamericainc.com)

### LINKS

Review your project  
results through

**Total Access**

Have a Question?

Ask  
The  
Expert

Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Table of Contents

Cover Page .....	1
Table of Contents .....	2
Case Narrative .....	3
Method Summary .....	5
Sample Summary .....	6
Client Sample Results .....	7
Definitions/Glossary .....	11
Surrogate Summary .....	12
QC Sample Results .....	14
QC Association Summary .....	25
Lab Chronicle .....	28
Certification Summary .....	29
Chain of Custody .....	32
Field Data Sheets .....	43
Receipt Checklists .....	44

# Case Narrative

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

## Job ID: 600-186068-1

### Laboratory: Eurofins TestAmerica, Houston

#### Narrative

#### Job Narrative 600-186068-1

#### Comments

No additional comments.

#### Receipt

The sample was received on 5/28/2019 12:23 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

#### Receipt Exceptions

Method(s) 531.1: One or more containers for the following sample was received broken or leaking: WW20190525-002-Day23 (600-186068-1).

One voa vial 60ml amber received broken: 600-186068-P-1

#### GC/MS Semi VOA

Method(s) 625: Surrogate recovery for the following sample was outside the upper control limit: WW20190525-002-Day23 (600-186068-1). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 625: The continuing calibration verification (CCV) associated with batch 180-280766 recovered above the upper control limit for 4-Nitrophenol and N-Nitrosodimethylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 490-598726 and analytical batch 490-599172.

Method(s) 625: Requested RL for Hexachlorophene is at 0.0101 mg/L, the lowest point on the initial calibration is 0.025 mg/L: WW20190525-002-Day23 (600-186068-1)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### HPLC/IC

Method(s) 531.1: The continuing calibration verification (CCV) associated with batch 680-572768 recovered above the upper control limit for Carbaryl. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 531.1: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 680-572768 recovered outside control limits for the following analytes: Carbaryl. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 531.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 680-572768 were outside control limits for Carbaryl. Sample was a non detect and was reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method(s) 608: The continuing calibration verification (CCV) associated with batch 280313 recovered above the upper control limit for PCB-1232. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 608: The continuing calibration verification (CCV) associated with batch 280281 recovered outside acceptance criteria, low biased, for 4,4'-DDT and Methoxychlor. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. Note: All recoveries are within 608.3 limits.

Method(s) 608: Surrogate recovery for the following samples were outside the upper control limit: (LCS 600-266120/2-A) and (LCSD

## Case Narrative

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

### Job ID: 600-186068-1 (Continued)

#### Laboratory: Eurofins TestAmerica, Houston (Continued)

600-266120/3-A). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method(s) 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 180-280089.

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with method Nonylphenols aqueous in preparation batch 320-299523.

Method(s) 608: Elevated reporting limits are provided for the following sample due to insufficient sample provided for preparation: WW20190525-002-Day23 (600-186068-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Method Summary

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

Method	Method Description	Protocol	Laboratory
625	Semivolatile Organic Compounds (GC/MS)	40CFR136A	TAL NSH
EPA 625	Semivolatile Organic Compounds (GC/MS) - Low Levels	EPA	TAL PIT
Organotins/GCMS	Organotins (GC/MS)	TAL SOP	TAL BUR
WS-MS-0010	Nonylphenols	TAL SOP	TAL SAC
608	Organochlorine Pesticides in Water	40CFR136A	TAL HOU
EPA 608	Organochlorine Pesticides/PCBs in Water	40CFR136A	TAL PIT
EPA 608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL PIT
PCB	Total PCB Calculation	TAL SOP	TAL PIT
531.1	Carbamate Pesticides (HPLC)	EPA	TAL SAV
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUR
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL SAC
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL HOU
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL PIT
625	Liquid-Liquid Extraction	40CFR136A	TAL NSH
625	Liquid-Liquid Extraction	40CFR136A	TAL PIT

## Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

## Laboratory References:

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL NSH = Eurofins TestAmerica, Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

## Sample Summary

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-186068-1	WW20190525-002-Day23	Water	05/25/19 14:00	05/28/19 12:23	

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Eurofins TestAmerica, Houston





# Client Sample Results

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

**Client Sample ID: WW20190525-002-Day23**

**Lab Sample ID: 600-186068-1**

**Matrix: Water**

Date Collected: 05/25/19 14:00

Date Received: 05/28/19 12:23

## Method: Organotins/GCMS - Organotins (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	0.0459	U	0.0459	0.0459	ug/L	D	05/30/19 13:45	06/03/19 13:40	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Tripentyltin	75		15 - 150				05/30/19 13:45	06/03/19 13:40	1

## Method: WS-MS-0010 - Nonylphenols

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nonylphenol	1.62	U	5.06	1.62	ug/L	D	06/06/19 08:47	06/10/19 14:33	1
Bisphenol-A	0.324	U	1.01	0.324	ug/L		06/06/19 08:47	06/10/19 14:33	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-nonylphenol monoethoxylate (Surr)	67		47 - 138				06/06/19 08:47	06/10/19 14:33	1

## Method: 608 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dicofol	1.04	U	1.04	1.04	ug/L	D	05/30/19 05:35	05/30/19 10:28	1
Mirex	0.0104	U	0.104	0.0104	ug/L		05/30/19 05:35	05/30/19 10:28	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Tetrachloro-m-xylene	94		32 - 143				05/30/19 05:35	05/30/19 10:28	1
DCB Decachlorobiphenyl	143		36 - 144				05/30/19 05:35	05/30/19 10:28	1

## Method: EPA 608 - Organochlorine Pesticides/PCBs in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	0.000000205	U	0.0000012	0.0000002	mg/L	D	05/29/19 11:17	05/31/19 15:02	1
			9	05					
4,4'-DDE	0.000000107	U	0.0000012	0.0000001	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	07					
4,4'-DDT	0.000000294	U	0.0000012	0.0000002	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	94					
Aldrin	0.000000121	U	0.0000012	0.0000001	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	21					
Hexachlorocyclohexane, alpha-	0.000000119	U	0.0000012	0.0000001	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	19					
Hexachlorocyclohexane, beta-	0.000000150	U	0.0000012	0.0000001	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	50					
Dieldrin	0.000000128	U	0.0000012	0.0000001	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	28					
Endosulfan I	0.000000149	U	0.0000012	0.0000001	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	49					
Endosulfan II	0.000000116	U	0.0000012	0.0000001	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	16					
Endosulfan sulfate	0.000000287	U	0.0000012	0.0000002	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	87					
Endrin	0.000000226	U	0.0000012	0.0000002	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	26					
Hexachlorocyclohexane, gamma-	0.000000118	U	0.0000012	0.0000001	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	18					
Heptachlor	0.000000448	U	0.0000012	0.0000004	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	48					
Heptachlor epoxide	0.000000138	U	0.0000012	0.0000001	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	38					
Methoxychlor	0.000000341	U	0.0000012	0.0000003	mg/L		05/29/19 11:17	05/31/19 15:02	1
			9	41					

Eurofins TestAmerica, Houston

# Client Sample Results

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

**Client Sample ID: WW20190525-002-Day23**

**Lab Sample ID: 600-186068-1**

Matrix: Water

Date Collected: 05/25/19 14:00

Date Received: 05/28/19 12:23

## Method: EPA 608 - Organochlorine Pesticides/PCBs in Water (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	0.00000149	U	0.0000129	0.0000014	mg/L		05/29/19 11:17	05/31/19 15:02	1
Toxaphene	0.0000112	U	0.0000990	0.0000112	mg/L		05/29/19 11:17	05/31/19 15:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Tetrachloro-m-xylene	64			38 - 146			05/29/19 11:17	05/31/19 15:02	1
DCB Decachlorobiphenyl (Surr)	82			42 - 150			05/29/19 11:17	05/31/19 15:02	1

## Method: EPA 608 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.00000471	U	0.0000099	0.0000047	mg/L		05/29/19 11:17	05/31/19 16:20	1
PCB-1221	0.00000566	U	0.0000099	0.0000056	mg/L		05/29/19 11:17	05/31/19 16:20	1
PCB-1232	0.00000516	U	0.0000099	0.0000051	mg/L		05/29/19 11:17	05/31/19 16:20	1
PCB-1242	0.00000904	U	0.0000099	0.0000090	mg/L		05/29/19 11:17	05/31/19 16:20	1
PCB-1248	0.00000296	U	0.0000099	0.0000029	mg/L		05/29/19 11:17	05/31/19 16:20	1
PCB-1254	0.00000943	U	0.0000099	0.0000094	mg/L		05/29/19 11:17	05/31/19 16:20	1
PCB-1260	0.00000388	U	0.0000099	0.0000038	mg/L		05/29/19 11:17	05/31/19 16:20	1
PCB-1262	0.00000703	U	0.0000099	0.0000070	mg/L		05/29/19 11:17	05/31/19 16:20	1
PCB-1268	0.00000450	U	0.0000099	0.0000045	mg/L		05/29/19 11:17	05/31/19 16:20	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Tetrachloro-m-xylene (Surr)	129			38 - 146			05/29/19 11:17	05/31/19 16:20	1
DCB Decachlorobiphenyl (Surr)	94			42 - 150			05/29/19 11:17	05/31/19 16:20	1

## Method: PCB - Total PCB Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Polychlorinated biphenyls, Total	0.00000943	U	0.0000099	0.0000094	mg/L			06/03/19 06:23	1

## Method: 531.1 - Carbamate Pesticides (HPLC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbaryl	0.250	U *	2.50	0.250	ug/L			06/03/19 17:33	1

Eurofins TestAmerica, Houston

# Definitions/Glossary

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

## Qualifiers

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

### HPLC/IC

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

**Abbreviation** These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Surrogate Summary

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

## Method: 625 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (10-120)	2FP (29-120)	NBZ (27-120)	PHL (10-120)	TPHL (13-120)	FBP (10-120)
600-186068-1	WW20190525-002-Day23	110	40	78	28	107	70
LCS 490-598726/4-A	Lab Control Sample	112	52	74	39	108	83
MB 490-598726/1-A	Method Blank	107	52	89	34	110	74

**Surrogate Legend**

TBP = 2,4,6-Tribromophenol  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5  
 PHL = Phenol-d5  
 TPHL = Terphenyl-d14  
 FBP = 2-Fluorobiphenyl (Surr)

## Method: EPA 625 - Semivolatile Organic Compounds (GC/MS) - Low Levels

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (45-106)	2FP (39-105)	TBP (39-125)	NBZ (43-110)	PHL (40-108)	TPHL (45-120)
600-186068-1	WW20190525-002-Day23	109 X	76	71	80	71	80
LCS 180-280168/2-A	Lab Control Sample	67	77	69	80	75	73
MB 180-280168/1-A	Method Blank	77	89	69	88	82	73

**Surrogate Legend**

FBP = 2-Fluorobiphenyl  
 2FP = 2-Fluorophenol (Surr)  
 TBP = 2,4,6-Tribromophenol (Surr)  
 NBZ = Nitrobenzene-d5 (Surr)  
 PHL = Phenol-d5 (Surr)  
 TPHL = Terphenyl-d14 (Surr)

## Method: Organotins/GCMS - Organotins (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TPTT (15-150)					
600-186068-1	WW20190525-002-Day23	75					
LCS 200-143572/2-A	Lab Control Sample	69					
LCSD 200-143572/3-A	Lab Control Sample Dup	74					
MB 200-143572/1-A	Method Blank	77					

**Surrogate Legend**

TPTT = Tripentyltin

## Method: WS-MS-0010 - Nonylphenols

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		4NPME (47-138)					
600-186068-1	WW20190525-002-Day23	67					
LCS 320-299523/2-A	Lab Control Sample	92					

Eurofins TestAmerica, Houston

## Surrogate Summary

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

### Method: WS-MS-0010 - Nonylphenols (Continued)

Matrix: Water

Prep Type: Total/NA

#### Percent Surrogate Recovery (Acceptance Limits)

##### 4NPME

Lab Sample ID	Client Sample ID	(47-138)
LCSD 320-299523/3-A	Lab Control Sample Dup	95
MB 320-299523/1-A	Method Blank	57

#### Surrogate Legend

4NPME = 4-nonylphenol monoethoxylate (Surr)

### Method: 608 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

#### Percent Surrogate Recovery (Acceptance Limits)

##### TCX1      DCBP1

Lab Sample ID	Client Sample ID	(32-143)	(36-144)
600-186068-1	WW20190525-002-Day23	94	143
LCS 600-266120/2-A	Lab Control Sample	141	250 X
LCS 600-266120/6-A	Lab Control Sample	143	139
LCSD 600-266120/3-A	Lab Control Sample Dup	81	234 X
LCSD 600-266120/7-A	Lab Control Sample Dup	123	127
MB 600-266120/1-A	Method Blank	88	58

#### Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

### Method: EPA 608 - Organochlorine Pesticides/PCBs in Water

Matrix: Water

Prep Type: Total/NA

#### Percent Surrogate Recovery (Acceptance Limits)

##### TCX1      TCX2      DCB1      DCB2

Lab Sample ID	Client Sample ID	(38-146)	(38-146)	(42-150)	(42-150)
600-186068-1	WW20190525-002-Day23	61	64	75	82
LCS 180-280089/2-A	Lab Control Sample	62	62	76	84
LCSD 180-280089/3-A	Lab Control Sample Dup	63	62	80	85
MB 180-280089/1-A	Method Blank	62	63	75	87

#### Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

### Method: EPA 608 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water

Prep Type: Total/NA

#### Percent Surrogate Recovery (Acceptance Limits)

##### TCX1      TCX2      DCB1      DCB2

Lab Sample ID	Client Sample ID	(38-146)	(38-146)	(42-150)	(42-150)
600-186068-1	WW20190525-002-Day23	119	129	85	94
LCS 180-280089/4-A	Lab Control Sample	133	128	94	92
LCSD 180-280089/5-A	Lab Control Sample Dup	119	114	84	86
MB 180-280089/1-A	Method Blank	119	112	82	81

#### Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)









# QC Sample Results

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

## Method: EPA 625 - Semivolatile Organic Compounds (GC/MS) - Low Levels (Continued)

Lab Sample ID: LCS 180-280168/2-A

Matrix: Water

Analysis Batch: 280766

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 280168

%Rec. Limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
n-Decane	0.0100	0.007031		mg/L	70	24 - 107	
n-Octadecane	0.0100	0.007097		mg/L	71	35 - 124	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	67		45 - 106
2-Fluorophenol (Surr)	77		39 - 105
2,4,6-Tribromophenol (Surr)	69		39 - 125
Nitrobenzene-d5 (Surr)	80		43 - 110
Phenol-d5 (Surr)	75		40 - 108
Terphenyl-d14 (Surr)	73		45 - 120

## Method: Organotins/GCMS - Organotins (GC/MS)

Lab Sample ID: MB 200-143572/1-A

Matrix: Water

Analysis Batch: 143681

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 143572

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	0.0450	U	0.0450	0.0450	ug/L		05/30/19 13:45	06/03/19 12:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits
Tripentyltin	77		15 - 150

Lab Sample ID: LCS 200-143572/2-A

Matrix: Water

Analysis Batch: 143681

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 143572

%Rec. Limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
Tributyltin	0.445	0.4742		ug/L	107	30 - 150	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tripentyltin	69		15 - 150

Lab Sample ID: LCSD 200-143572/3-A

Matrix: Water

Analysis Batch: 143681

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 143572

%Rec. Limits

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec.	RPD	Limit
Tributyltin	0.445	0.4544		ug/L	102	30 - 150	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tripentyltin	74		15 - 150

Eurofins TestAmerica, Houston



# QC Sample Results

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

## Method: 608 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCS 600-266120/2-A

Matrix: Water

Analysis Batch: 266117

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 266120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	141		32 - 143
DCB Decachlorobiphenyl	250	X	36 - 144

Lab Sample ID: LCS 600-266120/6-A

Matrix: Water

Analysis Batch: 266117

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 266120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
Dicofol	2.00	1.968		ug/L		98	70 - 130
Mirex	2.00	1.715		ug/L		86	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	143		32 - 143
DCB Decachlorobiphenyl	139		36 - 144

Lab Sample ID: LCSD 600-266120/3-A

Matrix: Water

Analysis Batch: 266117

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 266120

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	81		32 - 143
DCB Decachlorobiphenyl	234	X	36 - 144

Lab Sample ID: LCSD 600-266120/7-A

Matrix: Water

Analysis Batch: 266117

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 266120

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec.	RPD
Dicofol	2.00	1.986		ug/L		99	70 - 130
Mirex	2.00	1.647		ug/L		82	

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	123		32 - 143
DCB Decachlorobiphenyl	127		36 - 144

## Method: EPA 608 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 180-280089/1-A

Matrix: Water

Analysis Batch: 280313

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 280089

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.00000476	U	0.0000100	0.0000047	mg/L		05/29/19 09:40	05/31/19 15:04	1
PCB-1221	0.00000572	U	0.0000100	0.0000057	mg/L		05/29/19 09:40	05/31/19 15:04	1
PCB-1232	0.00000521	U	0.0000100	0.0000052	mg/L		05/29/19 09:40	05/31/19 15:04	1

Eurofins TestAmerica, Houston





# QC Sample Results

Client: Cardno, Inc

Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

## Method: EPA 608 - Organochlorine Pesticides/PCBs in Water (Continued)

**Lab Sample ID: LCS 180-280089/2-A****Matrix: Water****Analysis Batch: 280281****Client Sample ID: Lab Control Sample****Prep Type: Total/NA****Prep Batch: 280089****%Rec.****Limits**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limit
Hexachlorocyclohexane, gamma-Heptachlor	0.0000250	0.00001804		mg/L	72	32 - 140	
Heptachlor epoxide	0.0000250	0.00002103		mg/L	84	37 - 142	
Methoxychlor	0.0000250	0.00001582		mg/L	63	42 - 119	
Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits				
Tetrachloro-m-xylene	62		38 - 146				
DCB Decachlorobiphenyl (Surr)	84		42 - 150				

**Lab Sample ID: LCSD 180-280089/3-A****Matrix: Water****Analysis Batch: 280281****Client Sample ID: Lab Control Sample Dup****Prep Type: Total/NA****Prep Batch: 280089****%Rec.**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
4,4'-DDD	0.0000250	0.00001747		mg/L	70	31 - 141	15	35	
4,4'-DDE	0.0000250	0.00001781		mg/L	71	30 - 145	11	35	
4,4'-DDT	0.0000250	0.00001772		mg/L	71	25 - 150	15	35	
Aldrin	0.0000250	0.00002337		mg/L	93	42 - 140	10	35	
Hexachlorocyclohexane, alpha-	0.0000250	0.00001884		mg/L	75	37 - 140	10	35	
Hexachlorocyclohexane, beta-	0.0000250	0.00001813		mg/L	73	17 - 147	9	35	
Dieldrin	0.0000250	0.00001975		mg/L	79	36 - 146	10	35	
Endosulfan I	0.0000250	0.00002353		mg/L	94	45 - 150	11	28	
Endosulfan II	0.0000250	0.00002121		mg/L	85	10 - 150	9	35	
Endosulfan sulfate	0.0000250	0.00001743		mg/L	70	26 - 144	17	35	
Endrin	0.0000250	0.00002044		mg/L	82	30 - 147	11	35	
Hexachlorocyclohexane, gamma-Heptachlor	0.0000250	0.00001956		mg/L	78	32 - 140	8	35	
Heptachlor epoxide	0.0000250	0.00002222		mg/L	89	34 - 140	6	35	
Methoxychlor	0.0000250	0.00002264		mg/L	91	37 - 142	7	26	
	0.0000250	0.00001793		mg/L	72	42 - 119	12	30	
Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits						
Tetrachloro-m-xylene	63		38 - 146						
DCB Decachlorobiphenyl (Surr)	85		42 - 150						

## Method: 531.1 - Carbamate Pesticides (HPLC)

**Lab Sample ID: MB 680-572768/4****Matrix: Water****Analysis Batch: 572768****Client Sample ID: Method Blank****Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbaryl	0.250	U	2.50	0.250	ug/L		06/03/19 14:03		1

Eurofins TestAmerica, Houston

# QC Sample Results

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

## Method: 531.1 - Carbamate Pesticides (HPLC) (Continued)

Lab Sample ID: LCS 680-572768/5

Matrix: Water

Analysis Batch: 572768

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
Carbaryl	10.0	13.67	*	ug/L	137		80 - 120	

Lab Sample ID: LCSD 680-572768/6

Matrix: Water

Analysis Batch: 572768

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.	RPD	RPD	Limit
Carbaryl	10.0	16.70	*	ug/L	167		80 - 120	20	20	20





# QC Association Summary

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

## HPLC/IC

### Analysis Batch: 572768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-186068-1	WW20190525-002-Day23	Total/NA	Water	531.1	
MB 680-572768/4	Method Blank	Total/NA	Water	531.1	
LCS 680-572768/5	Lab Control Sample	Total/NA	Water	531.1	
LCSD 680-572768/6	Lab Control Sample Dup	Total/NA	Water	531.1	



# Accreditation/Certification Summary

Client: Cardno, Inc  
Project/Site: ITC WW20190525-002-Day23

Job ID: 600-186068-1

## Laboratory: Eurofins TestAmerica, Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704223-18-23	10-31-19
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.				
Analysis Method	Prep Method	Matrix	Analyte	
608	608	Water	Dicofol	
608	608	Water	Mirex	

## Laboratory: Eurofins TestAmerica, Burlington

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
ANAB	DoD	L2336		02-25-20
Connecticut	State Program	1	PH-0751	09-30-19
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-01-20
Florida	NELAP	4	E87467	06-30-19 *
Minnesota	NELAP	5	050-999-436	12-31-19
New Hampshire	NELAP	1	2006	12-18-19
New Jersey	NELAP	2	VT972	06-30-19 *
New York	NELAP	2	10391	04-01-20
Pennsylvania	NELAP	3	68-00489	04-30-20
Rhode Island	State Program	1	LAO00298	12-30-19
US Fish & Wildlife	Federal		LE-058448-0	07-31-19
USDA	Federal		P330-11-00093	07-24-20
Vermont	State Program	1	VT-4000	12-31-19
Virginia	NELAP	3	460209	12-14-19

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.







**Sample Receipt Checklist**JOB NUMBER: 19

Date/Time Received:

19 MAY 28 12:23

UNPACKED BY: VR

CLIENT:

CARRIER/DRIVER:

Custody Seal Present:  YES  NONumber of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°)	Therm ID	Them CF	Corrected Temp (°C)
<u>BN</u>	<u>Y / N</u>	<u>Y / N</u>	<u>3.8</u>	<u>1010</u>	<u>-0.2</u>	<u>3.6</u>
	<u>Y / N</u>	<u>Y / N</u>				
	<u>Y / N</u>	<u>Y / N</u>				
	<u>Y / N</u>	<u>Y / N</u>				
	<u>Y / N</u>	<u>Y / N</u>				
	<u>Y / N</u>	<u>Y / N</u>				
	<u>Y / N</u>	<u>Y / N</u>				
	<u>Y / N</u>	<u>Y / N</u>				
	<u>Y / N</u>	<u>Y / N</u>				
	<u>Y / N</u>	<u>Y / N</u>				
	<u>Y / N</u>	<u>Y / N</u>				
	<u>Y / N</u>	<u>Y / N</u>				

CF = correction factor

Samples received on ice?  YES  NOLABORATORY PRESERVATION OF SAMPLES REQUIRED:  NO  YESBase samples are >pH 12:  YES  NO Acid preserved are <pH 2:  YES  NO

pH paper Lot # \_\_\_\_\_

VOA headspace acceptable (5-6mm):  YES  NO  NA

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	YES	NO
---	-----	----

COMMENTS:

Eurofins TestAmerica, Houston

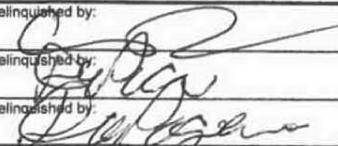
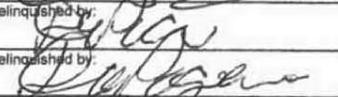
6310 Rothway Street  
Houston, TX 77040  
Phone (713) 690-4444 Fax (713) 690-5646



Environment Testing  
TestAmerica

## Chain of Custody Record

6/11/2019

<b>Client Information</b>		Sampler: <b>C. Rilla</b>	Lab PM: Joiner, Dean A	Carrier Tracking No(s):	COC No: 600-68698-18746.1						
		Phone:	E-Mail: dean.joiner@testamericainc.com		Page: Page 1 of 1						
Company: Cardno, Inc		Analysis Requested			Job #:						
Address: 970 Wedgewood Drive		Due Date Requested:			Preservation Codes:						
City: Crystal Lake		TAT Requested (days): <b>2 WD TAT Level 3e</b>			A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)						
State, Zip: IL, 60014											
Phone:		PO #: Purchase Order Requested									
Email: cheryl.randle@cardno.com		WO #:									
Project Name: ITC Deer Park Water Samples - Full List		Project #: 60010840 Analytical Grp: Active List 2019									
Site:		SSOW#:			Other:						
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=oil/oil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform ICP/MS/ICP/MS/MSD (Yes or No)	631.1 - Carbonyl 608_Peat - Mirex/Dicofol (Houston) Nonylphenols - (MOD) Project List 608_608_PCB - Pesticides/PCBs - (Pittsburgh) 625 - Hexachlorophane (Nashville) Organotins, GC/MS - (MOD) TBT Only 625_LL - Custom 625 Semivolatile List (Pittsburgh)	Total Number of containers	Special Instructions/Note:	
WW 20190525-002- Day 23		5/25/19	1400	C	Water	<input checked="" type="checkbox"/>	VR N S N N N N	<input checked="" type="checkbox"/>	16		
 <b>600-186068 Chain of Custody</b>											
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:					
Empty Kit Relinquished by:			Date:	Time:		Method of Shipment:					
Relinquished by: 			Date/Time: 6/28/19 1130	Company <i>Cardno</i>		Received by:			Date/Time:	Company	
Relinquished by: 			Date/Time: 6/28/19 1130	Company <i>SAR</i>		Received by:			Date/Time:	Company	
Relinquished by: 			Date/Time: 6/28/19 1130	Company		Received by: <i>Grayle</i>			Date/Time: 6/28/19 1225 PT	Company	
Custody Seals intact △ Yes △ No		Custody Seal No.: 1223			Cooler Temperature(s) °C and Other Remarks:						

**Sample Receipt Checklist**JOB NUMBER: YF  
UNPACKED BY:

Date/Time Received:

19 MAY 28 12:23

CLIENT:

Carbone  
PC

CARRIER/DRIVER:

Custody Seal Present:

 YES  NONumber of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
BN	(Y) / N	Y / (N)	3.8	Wflo	-0.2	3.6
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice?  YES  NO15 LABORATORY PRESERVATION OF SAMPLES REQUIRED:  NO  YES14 Base samples are >pH 12:  YES  NO Acid preserved are <pH 2:  YES  NO

13 pH paper Lot # \_\_\_\_\_

12 VOA headspace acceptable (5-6mm):  YES  NO  NA11 Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?  YES  NO

COMMENTS:		

## Chain of Custody Record



eurofins

Environment Testing  
TestAmerica

600-186068 Chain of Custody

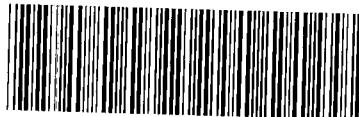
83.1

<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM: Joiner, Dean A	600-186068 Chain of Custody	
Client Contact: Shipping/Receiving		Phone:	E-Mail: dean.joiner@testamericanainc.com	State of Origin: Texas	
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas			
Address: 301 Alpha Drive, RIDC Park,		Due Date Requested: 5/30/2019		Job #: 600-186068-1	
City: Pittsburgh		TAT Requested (days):		Preservation Codes:	
State, Zip: PA, 15238				A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)
Phone: 412-963-7058(Tel) 412-963-2468(Fax)		PO #:		Other:	
Email:		WO #:			
Project Name: ITC Deer Park Water Samples		Project #: 60010840			
Site:		SSOW#:			
<b>Sample Identification - Client ID (Lab ID)</b>		Sample Date	Sample Time	Sample Type (C=Comp, G=grab) <small>BT=Tissue, A=Air</small>	Matrix (W=water, S=solid, O=waste/oil, M=multi matrix)
				Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)
				608/608_Prep (MOD) Copy Analytes	625_LL625_LL_Prep (MOD) Special List
				608_PCB608_Prep_PCB (MOD) Priority Pollutant PCB's	Total_PCB
					Total Number of containers
					<b>Special Instructions/Note:</b>
WW20190525-002-Day23 (600-186068-1)		5/25/19	14:00 Central	Water	X X X X X
					4
<p>Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte &amp; accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.</p>					
<b>Possible Hazard Identification</b>			<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>		
Unconfirmed			<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		
Deliverable Requested: I, II, III, IV, Other (specify)			Primary Deliverable Rank: 2		
			Special Instructions/QC Requirements:		
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:	
Relinquished by:		5/28/19	PA	Received by:	Date/Time: 5/29/19 9:30
Relinquished by:		Date/Time:	Company	Received by:	Date/Time:
Relinquished by:		Date/Time:	Company	Received by:	Date/Time:
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	

Eurofins TestAmerica, Houston

6310 Rothway Street  
Houston, TX 77040  
Phone: 713-690-4444 Fax: 713-690-5646

Chain of Custody Record



600-186068 Chain of Custody

eurofins

Environment Testing  
TestAmerica

<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM: Joiner, Dean A			COC No: 600-39781.1		
Client Contact: Shipping/Receiving		Phone:	E-Mail: dean.joiner@testamericainc.com	State of Origin: Texas		Page: Page 1 of 1		
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas				Job #: 600-186068-1		
Address: 30 Community Drive, Suite 11, City: South Burlington State, Zip: VT, 05403		Due Date Requested: 5/30/2019	Analysis Requested				Preservation Codes:	
Phone: 802-660-1990(Tel) 802-660-1919(Fax)		TAT Requested (days):					A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Email:		WO #:					Other:	
Project Name: ITC Deer Park Water Samples		Project #: 60010840					Special Instructions/Note:	
Site:		SSOW#:						
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Organisms_GCMS/3510C (MOD) TBT Only		
WW20190525-002-Day23 (600-186068-1)		5/25/19	14:00 Central		Water	X		
Possible Hazard Identification		Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Unconfirmed		Special Instructions/QC Requirements:						
Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 2						
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:				
Relinquished by:		Date/Time: 05/28 11:00	Company: TA	Received by: JL	Date/Time: 5/29/19 10:35	Company: T4Bm1		
Relinquished by:		Date/Time:	Company:	Received by:	Date/Time:	Company:		
Relinquished by:		Date/Time:	Company:	Received by:	Date/Time:	Company:		
Custody Seals Intact: △ Yes △ No		Custody Seal No.:				Cooler Temperature(s) °C and Other Remarks: 19		

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15

ORIGIN ID:LKSA (713) 358-2413  
SAMPLE RECEIVING  
TESTAMERICA INC  
6310 ROTHWAY ST

HOUSTON, TX 77040  
UNITED STATES US

SHIP DATE: 28MAY18  
ACTWGT: 10.00 LB MAN  
CAD: 0758523/CAFE3211

BILL RECIPIENT

TO **SHIPPING/RECEIVING**  
**TESTAMERICA LABORATORIES, INC.**  
**130 COMMUNITY DRIVE**  
**SUITE 11**  
**SOUTH BURLINGTON VT 05403**  
(802) 660-1990 REF: 6600-68821  
PO: YES



FedEx  
Express



J1611110006050101

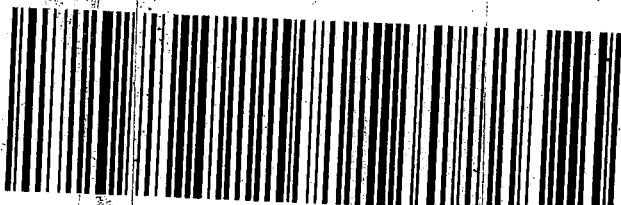
TRK#  
0201 4840 2906 3166

WED - 29 MAY 3:00P  
STANDARD OVERNIGHT

**NC BTVA**

05403

VT-US BTV



## Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:				
Client Contact: Shipping/Receiving		Phone:	Joiner, Dean A		600-39784.1				
Company: TestAmerica Laboratories, Inc.		E-Mail:		State of Origin:	Page:				
Address: 880 Riverside Parkway,		5/30/2019	NELAP - Texas	Texas	Page 1 of 1				
City: West Sacramento		TAT Requested (days):			Job #: 600-186068-1				
State, Zip: CA, 95605					Preservation Codes:				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)		PO #:			A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA				
Email:		WO #:			M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)				
Project Name: ITC Deer Park Water Samples		Project #: 60010840			Other:				
Site:		SSOW#:							
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab) <small>(W=water, S=solid, O=waste/oil, BT=tissue, A=air)</small>	Matrix (W=water, S=solid, O=waste/oil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MSDS/3510C-28 Day (MDD) Project List	Total Number of containers	Special Instructions/Note:
WW20190525-002-Day23 (600-186068-1)		5/25/19	14:00 Central	Water		X		2	
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.									
Possible Hazard Identification Unconfirmed				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Deliverable Requested: I, II, III, IV, Other (specify)				Primary Deliverable Rank: 2					
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:					
Relinquished by:		5/28 1000	TH	Received by:		Date/Time:		Company:	
Relinquished by:		Date/Time:	Company	Received by:		Date/Time:		Company	
Relinquished by:		Date/Time:	Company	Received by:		Date/Time:		Company	
Custody Seals Intact: △ Yes △ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:						3.2	

**COOLER RECEIPT FORM**Cooler Received/Opened On 5/29/2019 @ 9:45Time Samples Removed From Cooler 11:46 Time Samples Placed In Storage 11:49 (2 Hour Window)1. Tracking # 3177 (last 4 digits, FedEx) Courier: FedExIR Gun ID 31470366 pH Strip Lot M Chlorine Strip Lot M2. Temperature of rep. sample or temp blank when opened: 3.5 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO NA

If yes, how many and where:

5. Were the seals intact, signed, and dated correctly? YES NO NA

6. Were custody papers inside cooler? YES NO NA

I certify that I opened the cooler and answered questions 1-6 (initial) ACF

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



Larger than this.

14. Was there a Trip Blank in this cooler? YES NO If multiple coolers, sequence #       I certify that I unloaded the cooler and answered questions 7-14 (initial) ACF

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) ACF

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) ACFI certify that I attached a label with the unique LIMS number to each container (initial) ACF21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES NO #



## Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: Shipping/Receiving		Phone:	Joiner, Dean A		600-39785.1
Company: TestAmerica Laboratories, Inc.		E-Mail:		State of Origin:	Page:
Address: 5102 LaRoche Avenue,		Due Date Requested:	NELAP - Texas	Texas	Page 1 of 1
City: Savannah		TAT Requested (days):	Accreditations Required (See note):		
State, Zip: GA, 31404			NELAP - Texas		
Phone: 912-354-7858(Tel) 912-352-0165(Fax)		PO #:	Analysis Requested		
Email:		WO #:			
Project Name: ITC Deer Park Water Samples		Project #: 60010840			
Site:		SSOW#:			
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab) <small>BT=Tissue, A=Air</small>	Matrix (W=water, S=solid, O=waste/oil)
				Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)
				531.1/Carbary	Total Number of containers
					Special Instructions/Note:
WW20190525-002-Day23 (600-186068-1)		5/25/19	14:00 Central	Water	X
					2
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
Unconfirmed		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For    Months			
Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 2			
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:	
Relinquished by: <i>J. Taylor</i>		Date/Time: 5/28/2000	Company: TA	Received by: <i>J. Taylor</i>	Date/Time: 5/29/19 0925 Company: TOSAV
Relinquished by:		Date/Time:	Company:	Received by:	Date/Time:
Relinquished by:		Date/Time:	Company:	Received by:	Date/Time:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.2/2.3	



Environment Testing  
TestAmerica



600-186068 Field Sheet

amento  
g Notes

Job: \_\_\_\_\_

Tracking # 4840 2906 3096

(S) PO / FO / 2-Day / Ground / UPS / Courier / GSO /  
OnTrac / Goldstreak / USPS / Other \_\_\_\_\_

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.  
File in the job folder with the COC.

Notes:                  	Therm. ID: <u>HACCP</u>	Corr. Factor: <u>-</u>		
	Ice <input checked="" type="checkbox"/>	Wet <input checked="" type="checkbox"/>	Gel <input type="checkbox"/>	Other <input type="checkbox"/>
	Cooler Custody Seal: <u>-</u>			
	Sample Custody Seal: <u>-</u>			
	Cooler ID: <u>-</u>			
	Temp Observed: <u>3.2°C</u>		Corrected: <u>3.2°C</u>	
	From: Temp Blank <input type="checkbox"/>		Sample <input checked="" type="checkbox"/>	
	NCM Filed: Yes <input type="checkbox"/>		No <input type="checkbox"/>	
	Perchlorate has headspace?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Alkalinity has no headspace?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	CoC is complete w/o discrepancies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Sample preservatives verified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Cooler compromised/tampered with?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Samples compromised/tampered with?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Samples w/o discrepancies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sample containers have legible labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers are not broken or leaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sample date/times are provided.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Appropriate containers are used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sample bottles are completely filled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Zero headspace?*	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Multiphasic samples are not present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sample temp OK?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sample out of temp?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Initials: <u>MAN</u>	Date: <u>5/29/19</u>			

\*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

## Login Sample Receipt Checklist

Client: Cardno, Inc

Job Number: 600-186068-1

**Login Number:** 186068

**List Source:** Eurofins TestAmerica, Houston

**List Number:** 1

**Creator:** Taylor, Jacquelyn R

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.	6
The cooler's custody seal, if present, is intact.	True		7
Sample custody seals, if present, are intact.	True		8
The cooler or samples do not appear to have been compromised or tampered with.	True		9
Samples were received on ice.	True		10
Cooler Temperature is acceptable.	True		11
Cooler Temperature is recorded.	True	3.6	12
COC is present.	True		13
COC is filled out in ink and legible.	True		14
COC is filled out with all pertinent information.	True		15
Is the Field Sampler's name present on COC?	True		
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	True		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A	Check done at department level as required.	

## Login Sample Receipt Checklist

Client: Cardno, Inc

Job Number: 600-186068-1

**Login Number: 186068**

**List Number: 4**

**Creator: McNabb, Robert W**

**List Source: Eurofins TestAmerica, Burlington**

**List Creation: 05/29/19 11:04 AM**

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.	6
The cooler's custody seal, if present, is intact.	True	Not present	7
Sample custody seals, if present, are intact.	True		8
The cooler or samples do not appear to have been compromised or tampered with.	True		9
Samples were received on ice.	True		10
Cooler Temperature is acceptable.	True		11
Cooler Temperature is recorded.	True	1.9°C	12
COC is present.	True		13
COC is filled out in ink and legible.	True		14
COC is filled out with all pertinent information.	True		15
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.	
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	N/A		
Sample Preservation Verified.	True		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		

## Login Sample Receipt Checklist

Client: Cardno, Inc

Job Number: 600-186068-1

**Login Number:** 186068

**List Source:** Eurofins TestAmerica, Pittsburgh

**List Number:** 2

**List Creation:** 05/29/19 10:26 AM

**Creator:** Say, Thomas C

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Cardno, Inc

Job Number: 600-186068-1

**Login Number:** 186068

**List Source:** Eurofins TestAmerica, Sacramento

**List Number:** 6

**List Creation:** 05/29/19 02:26 PM

**Creator:** Her, David A

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.2c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Cardno, Inc

Job Number: 600-186068-1

**Login Number:** 186068

**List Source:** Eurofins TestAmerica, Savannah

**List Number:** 3

**List Creation:** 05/29/19 10:35 AM

**Creator:** Nobles, Terry G

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Container received broken. No volume could be salvaged for analysis.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	